

What is claimed is:

1. A process for producing a diesel fuel comprising contacting in an isomerization-cracking reaction zone a feed having at least 40% C₁₀₊ normal paraffins and at least 20% C₂₆₊ paraffins with a catalyst comprising at least one Group VIII metal on a catalytic support to produce a product having an iso-paraffin to normal paraffin mole ratio of at least 5:1 and having a diminished level of C₂₆₊ paraffins.
- 10 2. A process according to Claim 2 wherein said feed has at least 40% C₂₆₊ paraffins.
- 15 3. A process according to Claim 1 wherein said process is carried out at a temperature of from 200° C to 475° C, a pressure of from 15 psig to 3000 psig, and a liquid hourly space velocity of from 0.1 hr⁻¹ to 20 hr⁻¹.
4. A process according to Claim 3 wherein said process is carried out at a temperature of from 250° C to 450° C, a pressure of from 50 to 1000 psig, and a liquid hourly space velocity of from 0.1 hr⁻¹ to 5 hr⁻¹.
- 20 5. A process according to Claim 4 wherein said process is carried out at a temperature of from 340° C to 420° C, a pressure of from 100 psig to 600 psig, and a liquid hourly space velocity of from 0.1 hr⁻¹ to 1.0 hr⁻¹.
- 25 6. A process according to Claim 1 wherein said process is carried out in the presence of hydrogen.
7. A process according to Claim 6 wherein the ratio of hydrogen to feed is from 500 to 30,000 standard cubic feet per barrel.
- 30 8. A process according to Claim 7 wherein the ratio of hydrogen to feed is from 1,000 to 10,000 standard cubic feet per barrel.
- 35 9. A process according to Claim 1 wherein said feed has at least 50% C₁₀₊ normal paraffins.

10. A process according to Claim 9 wherein said feed has at least 70% C₁₀₊ normal paraffins.

5 11. A process according to Claim 10 wherein said feed is derived from a Fischer-Tropsch catalytic process.

12. A process according to Claim 1 wherein said diesel fuel has an iso-paraffin to normal paraffin mole ratio of at least 13:1.

10 13. A process according to Claim 12 wherein said diesel fuel has an iso-paraffin to normal paraffin mole ratio of at least 21:1.

14. A process according to Claim 13 wherein said diesel fuel has an iso-paraffin to normal paraffin mole ratio of at least 30:1.

15 15. A process according to Claim 13 wherein said molecular sieve has generally oval 1-D pores having a minor axis between 3.9 Å and 4.8 Å and a major axis between 5.4 Å and 7.0 Å.

20 16. A process according to Claim 15 wherein said molecular sieve is selected from the group consisting of SAPO-11, SAPO-31, SAPO-41, ZSM-22, ZSM-23, ZSM-35 and mixtures thereof.

25 17. A process according to Claim 16 wherein said molecular sieve is selected from the group consisting of SAPO-11, SAPO-31, SAPO-41, and mixtures thereof.

30 18. A process according to Claim 17 wherein said molecular sieve is SAPO-11.

19. A process according to Claim 1 wherein said Group VIII metal is selected from the group consisting of platinum, palladium, and mixtures thereof.

35 20. A process according to Claim 19 wherein said Group VIII metal is platinum.

21. A diesel fuel produced by the process according to Claim 1.

22. A process for producing a diesel fuel comprising contacting in an isomerization reaction zone a feed with a catalyst comprising a SAPO-11 and platinum in the presence of hydrogen at a temperature of from 340° C to 420° C, a pressure of from 100 psig to 600 psig, and a liquid hourly space velocity of from 0.1 hr⁻¹ to 1.0 hr⁻¹ to produce a product having an iso-paraffin to normal paraffin mole ratio of at least 30:1 and having a diminished level of C₂₆₊ paraffins, wherein the ratio of hydrogen to feed is from 1,000 to 10,000 standard cubic feet per barrel, and wherein said feed derived from a Fischer-Tropsch catalytic process and contains at least 70% C₁₀₊ normal paraffins and at least 40% C₂₆₊ paraffins.

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